CAUSES OF FLUCTUATIONS IN ABUNDANCE OF CONNECTICUT RIVER SHAD

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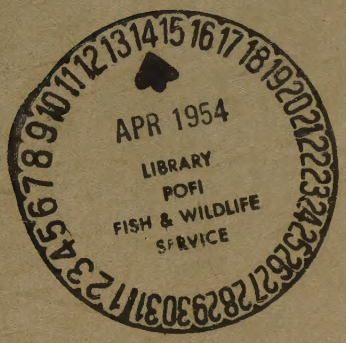

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UNITED STATES DEPARTMENT OF THE INTERIOR, Douglas McKay, *Secretary*
FISH AND WILDLIFE SERVICE, John L. Farley, *Director*

ABSTRACT

This paper presents a method of analyzing catch, fishing effort, and tagging data which was used to estimate the size of the shad runs in the Connecticut River for each year in the period 1935–51. Using these estimates, further analysis indicated that more than 80 percent of the fluctuations in the size of these runs can be explained by changes in the size of the escapements from the fishery.

An estimate of the mortality outside the river acting on a group of adult shad in the period between the 1946 and 1947 fishing seasons indicates that such mortality may also exert an effect on the size of the runs entering the river.

Investigation of the Connecticut River shad fishery is part of a 6-year, coastwise study of the Atlantic shad (*Alosa sapidissima*) sponsored by the Atlantic States Marine Fisheries Commission. Research conducted by the United States Fish and Wildlife Service, with the cooperation of the various State agencies along the Atlantic coast, has been undertaken to determine the factors affecting the abundance of shad and to recommend measures for restoring the species to its former abundance.